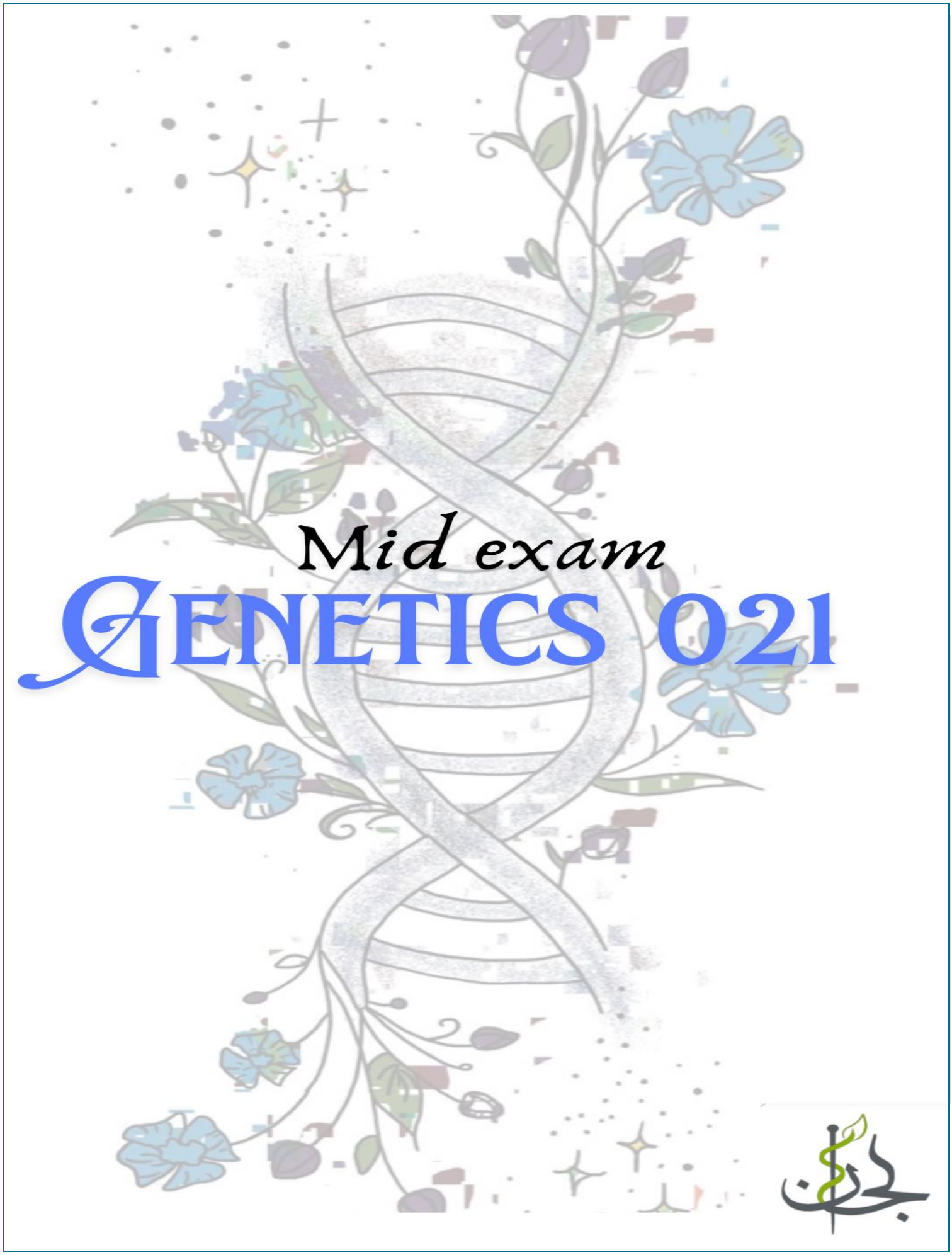
Mid exam
GENETICS 021

Questions:

1) An individual human being has 45 chromosomes, which chromosomal abnormalities will result in
   A) turner's syndrome
   B) Down's syndrome
   C) klinefelter syndrome
   D) non of the above

2) Non-disjunctions usually occur in one of two fashions, if it occurs in the second meiotic cell division, the percentage of abnormal gametes will be
   A) 10
   B) B 25
   C) 50
   D) 75
   E) 100
3) Which of the following represents a sperm:
   a) 22,Y
   b) 23,X
   c) 46,XX
   d) 46,XY
4) Which of the following statements best describes translation:
   a) A process where nuclei acid is added by ribosomes
   b) A process where converting mRNA to proteins
   c) A+B

A,c,b,b

5) Which of the following is microdeletion:
   a) Wolf-Horischorn syndrome
   b) Ratinoblastoma tumer
   c) Wilms tumer
   d) Cri du chat syndrome
   e) All of above

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6) A cell at mitosis, in anaphase is treated by colchicine, at the end it will result in:
   a) Duplication
   b) Deletion
   c) Polyploidy
   d) Inversion
7) During Cytokinesis:
   a) Nuclear membrane re-form
   b) Chromosomes decondens
   c) Spindle fibers disappear
   d) A & C
   e) All of above
8) Treating a cell with phytohemagglutinin:
   a) Enhance meiosis
   b) To stimulate cell division
   c) Inhibiting mitosis
9) In Which case there's no need for further chromosomal karyotype:
   a) A couples has reproductive problems
   b) A child with Duchenne muscular dystrophy
   c) In case of multiple miscarriages

E,c,e,b,b

10) Contagious genes are detected by:
   a) FISH
   b) CGH
   c) Spectral kayrotype
   d) A & B
11) Parder-Wili microdeletion syndrome can be detected by:
   a) CGH
   b) FISH
12) Using trypsin & Gemisa stain in studying chromosome, is in:
   a) G-band
   b) R-band
   c) Q-band
   d) C-band
13) In which of the following, chromosomes are heated and then stained with dark and light regions:
   a) G-band
   b) R-band
   c) Q-band
   d) C-band
14) In which banding is involved in staining chromosomes before reaching the maximum condensation in metaphase:
   a) G-band
   b) R-band
   c) Q-band
   d) C-band
   e) High resolution banding

D,b,a,b,e

15) Which of the following is true in regards to chromosomes:

A) Chromosomes are classified to 4 groups according to centromere position

B) Classified to 7 groups according to length & morphology

C) Acrocentric chromosomes are (13,14,15,16,21,22)

16) Studying of gene structure & function is:

a) Population genetics
b) Clinical genetics
c) Immunogenetics
d) Molecular & biochemical genetics
e) Cytogenetic

17) Complete of synapses is in:

a) Leptotena
b) Zygotena
c) Pachytena
d) Diplotena
e) Diakinesis

18) Which of the following represents a balanced robertson:

a) 45,XX der (13;21) (q10; q10)
b) 46,XX der (13;21) (q10; q10)

19) The Most time in which cell spends time in:

A) Metaphase
B) Interphase
C) S phase

B,d,c,a,b

20) Which one represents a sever health issue:
   a) 47, XXY
   b) 47,XY +18

21) Cat eye syndrome is due to:
   a) Deletion 22q11
   b) Duplication 22q11
   c) Inverted duplication 22q11.2

22) Cytosine exists in:
   a) mRNA
   b) DNA
   c) mRNA & DNA

23) A patient is founded with having cells of (46,XY) & (47,XXY), this is called:
   a) Heterogeneous
   b) Mosaicism

24) A newborn appears with Prominent Occiput, Low-set ear, Rocker bottom feet, Mental retardation and hypertonia. Mostly suffer from:
   a) Trisomy 13
   b) Trisomy 18
   c) Trisomy 21

25) Newborn with Cleft lip/palate and Polydactyly, mostly cased by:
   a) Trisomy 13
   b) Trisomy 18
   c) Trisomy 21

B,c,c,b,b,a

26) A patient with 46,XX ,i(X),(p10) has symptoms similar to :

a) 47, xxy
b) 46 , xy
c) 45, X

27) Which of the following is pericentric inversion:

A) 46,XX, inv(q13,q15)
B) 46, XX, ins (p15, q12,q21)
C) 46, XX, inv (p15q13)

28) Translocation in chromosome is between:

a) Homologous chromosome
b) Non homologous chromosomes

29) What is the end result of germ cell enter meiosis :

a) 46 chromosome, 46 chromatid, 2 cell
b) 23 chromosome, 23 chromatids, 4 cells
c) 23 chromosome, 46 chromatids, 4 cells

30) Law of segregation related to _____ and low of independent assortment related to:

A) Different chromosomes, homologous chromosome
B) Homologous chromosomes, different chromosomes

31) Which of the following is considered as balanced chromosomes abnormalities:

a) Duplication
b) Inversion
c) Deletion

C,c,b,b,b,b

32) two copies of the same chromosome arm joined through a single centromere in such a way that the arms form mirror images of one another.

a) Ring chromosome
b) Isochromosome
c) Deletion
d) Translocation

33) As animal cells enter mitosis, their microtubules disassemble and then reassemble forming the mitotic spindle with a focus at the _____, a special microtubule-organizing structure.

a) Centrosome
b) Centromere
c) Kinetochore

34) The description of this karyotype 46,xx,dup(1)(p25,p42) is:
Ans: Female/direct duplication/chromosome 1

35) The transcription in the cells:

a) DNA to mRNA
b) DNA to exons only
c) mRNA to protein

36) which of the following statements about euchromatin is correct :

a) Euchromatin is lightly packed and available for transcription
b) Euchromatin is tightly packed and available for transcription
c) Euchromatin represents 10% of chromosomes
d) Euchromatin replicate late s phase

B,a,a,a

37) Chromosomes 21 and 22 described according to centromere position as :

a) Metacentric
b) Acrocentric
c) Sub metacentric
d) Telocentric

38) Meeting point between non sister chromatids, where crossover happens, called :

Ans: chiasma

39) Essential for the stability of the chromosome tips :

Ans: telomere

40) Nucleosome consist of DNA wrapped twice around proteins core which consist of :

Ans : 2 copies of H2a, H2b, H3, H4

41) When adding colchicine to diploid cell at anaphase, what is the number of its chromosomes?

a) 46
b) 92
c) 23

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42) Unbalanced rearrangement is :

a) Loos
b) Gain
c) Loss and gain

B,A,C

43) robertsonian translocation happens in :

Ans: acrocentric chromosomes

44) Tall male has barr body in his cells :

Ans: klinefelter syndrome

45) Short girl with webbing of the neck and her karyotype is 45,X :

Ans : turner syndrome